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USSR Report

ENERGY

No. 143

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OIL AND GAS

TURKMANNEFT' FAULTED FOR SLOW EXPLORATORY WORK

Moscow PRAVDA in Russian 1 Feb 83 p 2

[Article: "Turkmen Oil"]

[Text] Ten years ago the fame about the Turkmen oil workers went far beyond the boundaries of the republic. Turkmenistan occupied an important place in the country in the quantity of oil produced. Now less of this valuable resource is obtained here. No, the underground stores have not diminished, and the oil men are working no worse than before. The reason is that earlier the beds were not deep, and extraction was by gushers: the oil flowed through the bore hole under its own pressure. Now the reserves are much deeper and, therefore, more difficult to extract.

Now the main obstacles have been overcome. What is left is to consolidate rear services, concentrate our efforts, and precisely define the actions of all services in order to quickly get to the objective, as the resolutions o the November 1982 CPSU Central Committee Plenum require.

The main task is to assimilate the territories adjacent to Okarem, and the so-called Kyzylkum depression. Two drilling administrations work here: Okarem and Kuydzhik. Recently they found eight deposits, most of which were multi-strata. Reserve stocks were also detected in the Kyzylkum depression. It is understandable why discussions of the prospects for this section were going on already five years ago.

We learned about all this while enroute to the Okarem administration. Administration Chief Ye. Babadzhanov, Main Geologist N. Khancharov, and G. Pakhmurin, chief of a department of the Turkmenneft' oil association, were with us. Their mood was elated. They had fulfilled the plan for increasing reserve stocks.

Ye. Babadzhanov states, "People took heart, and confidence appeared. Now, apparently they will also look at our problems differently, and help solve them."

N. Khancharov adds, "And future prospects are hopeful. There must also be oil at the Akpatlau and Akeser prospecting sections."

How did the Okarem prospectors achieve their successes?

"We reduced the dissipation of material and human resources at sections not ready for drilling," stated G. Pakhumrin. "We prospect in stages--first to a depth of 3,500 meters, then to 4,000 meters. That is we do not immediately race to the dangerous zones of high seam pressures, where drilling takes place under extreme conditions."

This tactic for attacking difficult rock has improved the technical and economic indices of the work of the Turkmennenft' association. Accidents when drilling the deepest wells have been reduced, and it has become possible to drill to the necessary depths and complete the entire complex of prospecting tasks. The main thing is that, with the shift to prospecting in stages, heavy bore hole structures are not necessary. They have been replaced by simpler ones, thus speeding up the preparation for exploiting deposits. It is not necessary to wait until reserves at lower levels of the bed have been opened.

All of this has made it possible to quickly demonstrate the indusirial oil and gas content of eight production beds. A multi-layered condensed gas bed was detected in the Akpatlau section. The geologists of the Kuydzhiksky administration were also happy. They located two gas deposits in Bugdayli and Korpedzh. By early October 1982 the brigades of foremen A. Dzhalalov, E. Isabekov, A. Amaniyazov, S. Vrandopulo and others had already completed the tasks of two years of the five-year plan.

Drilling difficult, extremely deep wells in Kumdag, Monzhukly and Karatep is sucessfully underway. Here, for the first time in Turkmenistan, a flow of gas has been obtained from a depth of approximately 5,000 meters. This confirms the correctness of the thrust of the prospecting efforts.

A great deal has been done in the current five-year plan to increase the technical and economic indices of drilling.

Since 1981, after a long interruption, the Turkmenneft' oil association has been fulfilling its plan for increasing the quantity of reserve stocks confirmed. But new deposits can be detected more quickly and at less cost.

What is required to do this? It is necessary to provide a reliable base to successfully attack the resources of hard-to-reach areas, to build access roads water lines and electrical transmission lines in a timely fashion, and to speed up the construction of service bases for drilling rigs in Okarem. Otherwise, successful exploration drilling cannot be assured. There is the bitter experience of the Okarem administrations which, in its seven years of existence, cost the state more than 15 million rubles in losses. Unjustified costs have also been permitted in the Kuydzhik explorative drilling administration. In 1982 alone, more than 6,000 meters of footage were not drilled, due to the absence of roads and electricity, and interruptions in the water supply.

The resources to equip the section are included in the estimate for drilling bore holes. But at times they are not spent prudently. Let us say that gravel to lay the road is hauled over hundreds of kilometers from Nebit-Dag. One cubic meter costs 25 rubles 30 kopecks. Although it, as well as other construction materials, can be delivered by sea from Krasnovodsk, through Prichal, which is much cheaper. Drilling and casing pipes are also hauled many miles for repair and molding. Again these are unnecessary expenses.

Today these problems are especially acute, since a 50 percent increase in the quantity of drilling during the five-year plan is planned. The situation in the Kuydzhik administration, for example, is aggravated by the fact that the mobile mechanized column of the Turkmenneft' oil association has stopped altogether building roads to new bore holes located in Bugdayli, Korpedzh, and Erdeklya. For example, the bore hole was assembled at the East Kamyshldzha section, but drilling could not begin for about a month because there were no roads. The brigade, as they say here, sat "in the window," twisting and turning due to the losses to the bore hole and to the association as a whole due to the forced downtime.

And what losses the oil workers endure due to electricity. Already in early 1981, by a joint order of four ministries--Power and Electrification; Petroleum; Gas; and Construction of Petroleum and Gas Industry Enterprises--measures were noted to speed up development of the Kumdag-Gagrandag-Okarem electrical power transmission line, which extends more than 200 kilometers and has 2 power stations. But, as they say, the cart is still there [nothing more has been done]. As a result, the operational wells, pumping stations which provide water for the Gograndag region and the petroleum prospectors, and the new base serving 14 rigs in Okarem are standing idle. After lengthy arguments it was decided to build an interim substation. And this under the most difficult climactic conditions! Later it will be necessary to rebuilt it.

"It is also necessary to expand work more rapidly in the Kyzylkum depression," states K. Danchenko, chief geologist of the Kuydzhik Administration for Explorative Drilling. "The comprehensive geophysical experimentation going on here should now be concluded more rapidly. But the geophysicists cite insufficient personnel and difficult terrain."

The riches of Western Turkmenistan will undoubtedly be discovered and exploited. But to be frank, this final objective could be achieved at less cost. The old approach to evaluating the work of the prospectors interferes with this. At present the main index is considered to be the number of meters of footage drilled, and not the increase in reserve stocks.

They can be punished for non-fulfillment of the plan for drilled footage, but are excused for not meeting the objective for increasing reserves. A vicious circle arises. The geologists substantiate a new direction for prospecting and demand that timely and high quality explorative drilling be carried out, but they are told not to interfere with fulfilling the plan for drilled footage. Like it or not they comply. But the final objective of both parties' work is prepared bore holes, petroleum, gas, and new increases in reserve stocks. And it is no secret that at times, in the race for meterage, the drillers jump over strata and detect them only upon repeated prospecting.

The need to develop explorative drilling in the Gograndag-Okarem region was already stated two five-year plans ago. However, the Turkmenneft' association in no way resolved to relocate its main efforts away from the accustomed surroundings of Koturdepe and Bars-Gel'mes to little studied regions. This is understandable. It is easier to fulfill the drilling plan at the old, long-exploited oil fields. Service bases and comfortable living quarters are at hand. True, the explorative drilling administration in Okarem was already created seven years ago. But facilities here are practically non-existent. This has led to idle wells, complications, accidents and losses. Prospecting is dragged out over many years.

It has long been time to ask of the drillers an increase in reserves obtained per ruble spent, and not merely the fulfillment of the plan for footage. Economics must figure out how to make everyone interested in increasing reserves: geological prospectors, derrick builders, drillers, oil field workers, geophysicists and producers.

The Turkmen oil workers have many problems. However, they must be solved primarily within the collective itself. They have the opportunities and capabilities.

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CSO: 1822/145

TWO SPECIAL INVESTIGATIVE REPORTS ON FIELD OPERATIONS

Baku VYSHKA in Russian 28 Jan 83 p 2

[Unsigned article: "The Earth's Riches--Serving the Homeland"]

> [Text] Guided by the resolutions of the November 1982 CPSU Central Committee Plenum, the December Plenum of the Azerbaijan Communist Party Central Committee stressed that stabilizing and thereafter constantly increasing oil production, and restablishing the former reputation of the republic's petroleum industry, are matters of honor for the entire Azerbaijan party organization. A major contribution to solving this problem must be made by the prospectors for natural gas deposits in new areas of the Caspian Sea Continental Shelf, in regions of Central and Western Azerbaijan, and in several other sections in the republic.
>
> Today VYSHKA is publishing two investigative reports which shed light on the state of prospecting at the Andreyev Bank section, where the collectives of two off-shore drilling rigs are conducting the search for fuel, and also at the Karabagla section in the Prikurin lowlands.

AT THE ANDREYEV BANK SECTION

The start of the third year of the five-year plan was marked by a major success for the prospectors working at the Andreyev Bank section. The future seventh bed of productive strata was uncovered for the first time in borehole No 4, at the record depth of 6,750 meters. We were told this by M. Gasanov, a geologist at the 60 Years of Soviet Azerbaijan off-shore rig, when the helicopter carrying a drilling team shift landed at the rig's landing platform.

He stated: "According to electrometric research data just obtained, the seventh bed contains high oil and gas content. We hope to obtain good results after lowering the flow string and testing the well for productivity."

In November of last year, VYSHKA reported on the successes of this collective, which is headed by Rig Chief V. Sadykhov and Drilling Foremen Z. Garibov and F. Mamedbeyli. We recalled that at that time the rig collective promised to test the well for productivity in January of this year. Although it was necessary to drill over 200 meters further than had been initially projected, the prospectors are now close to fulfilling their promise.

The shifts of drillers A. Mirzazade, Ya. Mamedrzayev, S. Ramazanov, L. Grigoryan, and V. Guseynov saved more than a million rubles last year owing to their optimum management of the drilling process, and use of advanced drilling equipment and technology. Here, for the first time in the Caspian, intermediate casings were lowered in one section to depths of 5000-6000 meters, and a flow string to a depth of 6,750 meters.

Importantly, the final interval was drilled without complications, although final stage drilling was conducted with a rotor and minimal clearance between the walls of the borehole and the drilling pipes. An efficient layout of the drilling column, and maintanance of an optimal drilling solution (which was maximally heavy in order to avoid a gusher) both helped to prevent complications. We were shown instruments for measuring bottom hole temperature which had been flattened from the borehole pressure as though from a press.

In a word, many factors contributed to the success of the oil rig collective, 60 Years of Soviet Azerbaijan, which for the past two years of the five-year plan has frequently won the socialist competition in the MURBe [expansion unknown] with specialized technical processes.

One was creatively using the experience of the collective of another off-shore rig, 60 Years of the October Revolution, which is already drilling its fourth well in this section. The first of these was also successfully accomplished well ahead of schedule, to a depth of 6,158 meters--150 meters deeper than planned. However, later on matters did not go as well as desired. The next two wells were abandoned for technical reasons.

"The fact is that drilling conditions here turned out to be much more difficult than expected," stated I. Kerimov, chief of the All-Union Production Association Kaspmorneftegazprom [Caspian Sea Oil and Gas Industry] production department for drilling. "For example, soon after work began in well No 3, mud spouts appeared around the drill site. The rig was saved only due to the quick wits, courage and selflessness of the crew members."

Things seemed to be going well as the collective began drilling the present well No 7. Having mobilized all their efforts, they frequently were victorious in competition. But in September of last year, a crack appeared in the casing soon after it was lowered, thus leading to a new complication.

It would seem appropriate in this situation to mobilize all the efforts of the collective to overcome the difficulties and successfully eliminate the complication. But, unfortunately this did not happen. Long downtime while awaiting cement, weighting material, and chemical reagents had their effect both on the workers' morale and on labor and production discipline.

The rig is equipped with modern equipment, and with all the necessary conditions for highly productive work and rest, but they are far from fully used. The diesel plant, which is the energy heart of the rig, is in especially deplorable condition.

"One of the engines has been standing uselessly idle for two years," states Machinist R. Geybatov. "We obtained an axle for it, and are now awaiting bearings. Yes, and other engines, as they say, are at death's door."

As is well known, a specialized repair brigade is needed to repair the engines, as is done at other rigs. Here, though, this work is accomplished by the machinists themselves, who are clearly not up to it.

Or take another example. The platform for the blowout preventer, which is used to close off the well in the event of a blowout, has gone completely out of order. It is impossible to work on it, especially in the given area which is fraught with all manner of complications. However, there is no way to replace it. The MURBe leadership refers to the fact that such platforms are manufactured in the Astrakhan Ship Building Association, to which the appropriate order was placed. Considerable time has elapsed since, but nothing has changed. It must be said that even those troubles that the rig collective itself could handle have also not been eliminated. Two weeks ago the republic Gosgortekhnadzor [State Committee for Supervision of Industrial Safety and for Mining Inspection] directed attention to the fact that supports were torn off of the rig, that the lamps had no safety caps, and that the life rafts were piled up where they had fallen.

"But what can we do if we don't have enough people," stated A. Babayev, the rig's chief mechanic.

Many problems concerning living conditions also are not being solved satisfactorily. Last summer, for example, the refrigerator unit did not operate for a long period of time, not to mention the vessel's air conditioning. As a result, the rig's crew members daily had to set out on the emergency motorboat to their neighbors on the "60 Years of Azerbaijan" rig where their perishable foodstuffs were preserved. Expecting no assistance from the MURBe leadership, rig workers during their off days themselves procured freon for the refrigerator.

It is now important to take all possible measures so that the collective will regain faith in its efforts and a desire to catch up for lost time. However, when we were on the rig, weighting material and diesel fuel were running out.

"It is practically impossible to supply all the rigs in a timely fashion with the aid of only the two supply ships which we have," states V. Aliyev, MURBe chief engineer. "And crane vessels, without which goods of large dimensions cannot be delivered, do not service us at all."

The situation which has arisen regarding changing shifts by helicopter should also be discussed. VYSHKA has already written about this. The meteorological conditions on the Andreyev Bank, especially in winter, are among the most difficult, and it is important when a "window" opens up rapidly to exchange the crew and deliver food to the rigs. This was possible to do with three or four flights of MI-8 helicopters. By the way, we were witnesses to the fact that the crew changes are delayed. Here the helicopter crews take on board sometimes only 8-10 passengers--half the aircraft's capacity.

"They say that the machines are old," explained S. Kuliyev, chairman of the trade union drilling committee. "It is true that the pilots promise that soon after several helicopters arrive from Western Siberia the situation will change. But so far, as you see, shift changes are one of our sore spots."

In a word, despite the successes which have been achieved, the off-shore drillers have many problems. And the joint efforts of the rig collectives, the Kaspburneftegazprom oil and gas drilling association, and the All-Union Production Association Kaspmorneftegazprom are necessary to overcome them.

> The following people participated in the investigation: F. Azizov, driller and holder of the Red Banner Labor award; A. Huriyev, inspector for Azerbaijan SSR Gosgortechnadzora, general correspondent; and VYSHKA Correspondent O. Nechipurenko.

AT THE KARABAGLA SECTION

Exactly 20 years have passed since the first gusher was struck from a well drilled at the Karabagla section by the Ali Bayramlin drillers. Now more than 30 percent of all the liquid fuel produced by the Sal'yanyneft' Oil and Gas Extraction Administration oilmen is obtained here.

However, geologists believe that the Karabagla mineral riches are far from fully discovered. Therefore, stress is now being placed on completing the exploration of the currently intensively exploited upper layer of productive strata, and on searching for fuel in the deep layers. The prospectors of the Ali-Bayramlin and Kyursangin drilling administrations are accomplishing this most important task.

Last year, the Ali-Bayramlin drilling administration collective had to begin drilling three test boreholes and drill 5,906 meters. This task was completed, and they even drilled more than 800 additional meters of rock. A great deal of work was accomplished, but, unfortunately, the necessary output has not yet been achieved.

We arrived at well No 97 where the brigade of Foreman Allaza Shamiyev works. The foreman has behind him many oilfield structures which he has initiated at the oilfields of Kyurovdag, Mishovdag, and Muradkhanly. Last August the brigade relocated to the Karabagla platform. During the past 4.5

months the brigade has succeeded in outstripping the schedule and reaching a depth of 3,022 meters.

"The results might have been better," stated the foreman, "had it not been for frequent electric power outages, and delays in delivery of necessary equipment, especially pipes."

There are also other causes for the drilling being impeded. At a depth of 3,020 meters, for example, a tool "froze up." Two oil baths were given, but it was not possible to free the tool. It was necessary to drill a second shaft from the depth of 2,880 meters.

"Now drilling is taking place normally," continues the foreman, "but it is, of course a shame that almost 138 hours or nearly 100 meters of pure drilling were lost. And the problem could have been solved much sooner had there been 140 millimeter "left" drilling pipes at the drilling administration pipe and tool supply base."

The brigade of Akif Amanov, the well-known foreman and Hero of Socialist Labor, is fulfilling the same task of prospecting for new deposits of fuel in the Karabaglas. The collective at borehold No 98 reached the 3,140 meter mark rapidly, but when only 160 meters remained to the botton, obstacles were encountered.

Along [illegible] T. Gadzhnimamedovyy, deputy chief of the drilling administration Central Engineering and Technological Service, we met at the borehole with Driller D. Babayev. He was bothered by something.

"What happened?" we asked.

"We were repairing the pump again," he answered, "and the bolts on the 'guitar' [swinging arm] tore off." The drillers call the parts of the U-8-6M pump the "guitar." They explained that it cannot withstand high stress. There is high reservoir pressure in the borehole, and the brigade, in order to avoid possible complications, drills using high density flushing fluid. This causes some pump parts to break down prematurely.

The drillers also complained that the degasifier frequently does not work properly, a fact which impacts on the rate and quality of drilling.

The geologists have placed great hopes on test borehole No 99. Foreman M. Nasirov's brigade, from the Kyursanga Drilling Administration, began drilling this borehold almost two years ago on the southwestern side of the Karabagla structure. Its task includes detecting new oil-bearing target areas of the structure and tracing the contour of the oil and gas bearing portion of the deep-lying 13th bed of productive strata.

The borehole was drilled to the projected depth with great difficulties. Accidents and complications occurred when the bit reached the 3,418 meter mark. It was twice necessary to sidetract a second shaft. Finally, in October 1982, drilling the borehole was completed. But then new misfortunes began. After completion, an influx of oil and sediment was obtained, and then a complete blockage formed. Further checking revealed that pipes had frozen up inside the borehole. Sampling efforts are continuing here at this time.

The task of borehold No 35 also has not been completed. It was to determine the contour of the oil-bearing portion of the 15th bed of productive strata on the southwestern structure of the section. The borehold reached only the fifth bed when it received a gusher of gas with a daily output of 130 cubic meters.

The Kyursanga drillers at the Karabagla section are drilling two other exploratory boreholes. Silence greeted us at drill site No 279. Foreman M. Nazirov and members of his brigade were engaged in preparing a borehold for geophysical operations prior to lowering the column.

The foreman does not know when the column will be delivered to the drill site. He remarks that in general things are going badly. Therefore, 785 hours have been lost since drilling began--in other words, more than 48 percent of the calendar time.

Foreman Nadir Mamedov also complained to us of serious shortcomings in material and equipment supply. His brigade is drilling borehole No 233 in the central part of the Karabagla section.

We scan the drilling journal. Here are some entries: "11-15 October 1982. Periodic flushing. Awaiting 9-inch extension." "16-19 November. Awaiting 9-inch extensions. Awaiting a welder."

We ascertain that more than 1,800 hours of productive time has been lost due to organizational and technical reasons. The brigade stood around almost 3.5 months awaiting casings and drilling pipe alone. And it is not accidental that the schedule for turning over wells for testing has been disrupted. On the whole, the collective of the Kyursanga Drilling Administration fulfilled only 93.5 percent of last year's plan for explorative drilling.

The Karabagla oilfield workers are filled with resolve to respond with specific accomplishments to the resolutions of the November 1982 CPSU Central Committee Plenum and the December Plenum of the Azerbaijan Communist Party Central Committee, and to consolidate and multiply the successes in petroleum extraction which they achieved last year. But in this they require serious assistance from the prospectors. It is the duty of party and trade union organizations, and of the leaders of the Bayramla and Kyursanga Drilling Administrations to carefully analyze the shopcomings in prospecting, and take effective steps to eliminate them. The main emphasis must be placed on improving the delivery of materials and equipment, and strengthening technical leadership, and labor and production discipline.

> The VYSHKA investigative group included: Assistant Driller R. Asadov; M. Melikov, engineer and member of the Kyursanga Drilling Administration Public Investigator's Group; and Correspondent S. Gareyev.

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OIL AND GAS

STATUTE ON DUTIES, POWERS OF STATE PETROLEUM PRODUCTS SUPPLY ORGAN ISSUED

Moscow SOBRANIYE POSTANOVLENIY PRAVITEL'STVA SSSR in Russian Part 1, No 2, 1983

[USSR Council of Ministers Decree: "On Approval of the Statute on the State Committee of the USSR for Supply of Petroleum Products"]

[Text] The USSR Council of Ministers decrees:

1. Approve the proposed:

Statute on the State Committee of the USSR for Supply of Petroleum Products; and

changes that are introduced into USSR Government decisions in connection with approval of the indicated Statute.

2. Declare that the following are rescinded:

a) Paragraph 3, item 5 of USSR Council of Ministers Decree No 828, 23 October 1965, "On the Structure and Staffs of the Central Apparatus of the USSR State Committee of the USSR Council of Ministers for Material and Technical Supply";

b) Item 6 of USSR Council of Ministers Decree No 63, 27 January 1967, "On Measures for Improving the Organization and Planning of the Supply of Materials and Equipment" (SP SSSR [Collection of USSR Decrees], 1967, No 4, item 13); and

v) Item 3 of USSR Council of Ministers Decree No 576, 23 June 1981, "On Forming of the Union-Republic State Committee of the USSR for Supply of Petroleum Products."

Chairman, USSR Council of Ministers N. Tikhonov

Administrator, USSR Council of Ministers M. Smirtyukov

Moscow, the Kremlin. 11 November 1982, No 985.

Approved by
USSR Council of Ministers Decree
No 985, 11 November 1982

The Statute on USSR State Committee for Supply of Petroleum Products

1. The State Committee of the USSR for Supply of Petroleum Products (Goskomnefteprodukt USSR) is a Union-republic organ of state control.

Goskomnefteprodukt USSR exercises supervision over the system of providing the people's economy of the country with petroleum products and bears responsibility for the timely and uninterrupted supply thereof to the people's economy and rational organization of the shipment and proper storage of petroleum products.

2. The chief missions of Goskomnefteprodukt USSR are to:

develop the branch as a component part of the people's economy of the country in every way possible;

develop a network of pipeline transport and build new petroleum-product pipelines and bulk plants, taking account of the locations of oil-refining enterprises and satisfaction of the economic regions' requirements for petroleum products;

monitor the rational and economical use of petroleum products in the people's economy;

improve the system for providing the people's economy with petroleum products, introduce the scientific organization of work and management, and create an automated system for controlling the branch, using mathematical-economics methods and computer equipment;

fulfill state-plan tasks and insure strict observance of state discipline;

implement a unified technical policy in the area of creating facilities for the transporting, storage and release of petroleum products;

organize the effective operation of bulk plants, transport and industrial enterprises, automotive refueling stations and other facilities of the branch;

use capital investment rationally, increase its effectiveness, reduce the cost of and shorten the time for construction work, introduce production and fixed capital into operation on time, and assimilate this capacity within short periods;

organize the collection, reclamation and repeat use of spent petroleum products in the people's economy;

provide enterprises, institutions and organizations of the Committee's system with skilled personnel, create conditions for retaining personnel in order to make the best use of workers' knowledge and experience, select and correctly train personnel and promote young, well-proven specialists to supervisory work; and

improve housing and cultural and domestic-amenity conditions for the workers of enterprises, institutions and organizations of the Committee's system and create safe working conditions for operations.

3. Goskomnefteprodukt USSR supervises the branch entrusted to it, as a rule through the state committees of the Union republics for supply of petroleum products (goskomnefteprodukty soyuznykh respublik) and enterprises, institutions and organizations of Union subordination--directly or through organs created by it.

Goskomnefteprodukt USSR, the goskomnefteprodukts of the Union republics and the associations, the industrial enterprises, the scientific-research, design and design-development organizations, the administrations, the bulk plants, the automotive servicing combines, the automotive refueling stations and other enterprises, institutions and organizations subordinate to it comprise the unified system of Goskomnefteprodukt USSR.

The goskomnefteprodukts of the Union republics are subordinate to the councils of ministers of the corresponding Union republics and Goskomnefteprodukt USSR, and, in questions of the organization of the supplying of the people's economy with petroleum products, they are guided by Goskomnefteprodukt USSR instructions.

Decrees about Union-republic goskomnefteprodukts and the structure and worker manning of their central apparatuses are approved by Union-republic councils of ministers, with the coordination of Goskomnefteprodukt USSR.

4. Goskomnefteprodukt USSR, in accordance with the missions entrusted to it:

a) systematically evaluates the technical and economic level achieved by the branch, determines directions for developing the system for providing the people's economy with petroleum products, and makes the necessary recommendations on these matters in the established procedure, and it also develops and executes the corresponding measures;

b) ascertains and analyzes the requirements of the Union republics and of USSR ministries and agencies for petroleum products, except for petroleum products whose inventories and distribution plans are approved by the USSR Council of Ministers and USSR Gosplan and for petroleum products that are shipped by the manufacturing ministries by direct communications;

v) participates in the review of data about requirements for petroleum products and in the development of drafts of inventories and of plans for their distribution, which are executed by USSR Gosplan;

g) prepares recommendations on the amounts of production of petroleum products necessary for the year being planned and for the five-year period and presents them to the manufacturing ministries and to USSR Gosplan, takes part in the development by the appropriate ministries of drafts of annual and long-range plans for producing petroleum products, gives evaluations of them in the established procedure, and monitors fulfillment by the supplying ministries of plans for producing (shipping) petroleum products in the established amount and variety;

introduces, in the established procedure, recommendations on the rational siting of facilities for producing petroleum products at oil-refining enterprises, on increases in the production of progressive and economical types of petroleum products, and on reductions in output of and the removal from production of various types of petroleum products which have not enjoyed demand or are uneconomical;

e) develops and approves inventories and plans for distributing petroleum products of the Goskomnefteprodukt USSR products mix, including inventories and plans for the collection, reclamation and use of spent petroleum products;

distributes among ministries, agencies and organizations that are included in the category, "Other Customers," which are singled out in an established procedure for this group, funds for petroleum products and inventories and plans for their distribution, which are approved by the USSR Council of Ministers and USSR Gosplan ye) compiles inventories and plans for distributing all petroleum products by Union republic (except for those products delivered by the manufacturing ministry by direct communication) on the basis of data obtained from USSR ministries and agencies and from the Union republics about the distribution of allocated funds, from the point of view of the Union republics, but also taking into consideration the rational assignment of customers to suppliers;

develops and approves plans for interrepublic shipments of petroleum products;

zh) develops, jointly with the USSR Ministry of Oil Refining and Petrochemical Industry and with transport and other ministries and agencies, plans for hauling petroleum products;

z) establishes for USSR ministries and agencies and the Union republics tasks on the collection, reclamation and use of spent petroleum products;

develops and approves norms for collecting spent petroleum products and standards and technical documentation on the collection and rational use of spent petroleum products that are binding for all ministries, agencies, enterprises, institutions and organizations that consume petroleum products, regardless of their agency subordination;

develops drafts for purchase and wholesale prices for spent petroleum products and presents them for approval in the established procedure;

i) executes state monitoring over the rational and economical use of petroleum products at enterprises, institutions and organizations, regardless of their agency subordination, analyzes the causes of losses and of nonrational use of petroleum products, and takes the necessary steps to eliminate them;

k) makes an accounting of the reserves of all the petroleum products in the country and compiles consolidated inventories of petroleum products;

l) reviews, with domestic-trade organizations and manufacturing ministries, the amounts and variety of petroleum products that are subject to shipment for export and determines the suppliers of these products;

m) provides for the rational deployment and development of the petroleum-product network, bulk plants and automotive refueling stations for public use and gives evaluations on matters of the siting of petroleum-refining enterprises that are subject to construction, as well as of bulk plants and refueling points for consumers;

n) takes steps to rationalize the hauling of petroleum products, and develops, with the participation of interested ministries and agencies, schemes for rational freight flow of petroleum products, taking into account maximum utilization of the most economical types of transport;

o) determines the paths for the most efficient use of scientific and technical achievements in the branch, organizes work on the development of invention, rationalization, product-quality certification, standardization, metrology and scientific and technical information, conducts scientific research and design-test operations, and introduces advanced work and management methods and means for mechanizing and automating operating processes;

p) insures the rational use of production capital and of material, labor and financial resources, and intensifies the savings regime at subordinate enterprises, institutions and organizations;

r) develops drafts of five-year and annual plans for the branch's social and economic development, in coordination with tasks for developing the whole people's economy and the country's various economic regions;

plans, in the established procedure, the main indicators for the production-economics and financing activity of Union-republic goskomnefteprodukts and of immediately subordinate enterprises, institutions and organizations, monitors their observance of planning, financial and budget-estimate discipline, and insures the safeguarding of socialist property;

executes planning for the receipt of turnover taxes from the realization of petroleum products for the USSR as a whole and for the Union republics;

s) develops drafts of special prerequisites for shipping petroleum products and presents them for approval in the established procedure;

t) executes at subordinate enterprises measures for protection of the environment from pollution by petroleum products and for timely construction and correct operation of structures for the purification of petroleum-containing and other effluents and industrial discharges;

u) takes part in the development and review of state standards and specifications for petroleum products, methods for testing, standards for technical means for storing, transporting, refueling and monitoring the quantity and quality of petroleum products and other equipment used in providing the national economy with petroleum products, and technical requirements for new types of means for hauling petroleum products by rail, river, maritime and automotive transport and for tests of these means;

f) supervises the organization of bookkeeping, statistical and current recording and reporting at enterprises, institutions and organizations of the Committee's system;

kh) execute capital construction in the branch, insures the effective use of capital investment and material resources, reviews and, in the established procedure, approves facility title lists for construction projects and design and budget-estimating documentation, and conducts consultant review of designs and budget estimates for the construction of facilities;

ts) carries out the functions of general contractor in regard to facilities for petroleum-product transport, the bulk-plant activity and automotive filling stations that are built abroad with the Soviet Union's technical assistance, and it also implements, in the established procedure, economic, scientific and technical ties with foreign countries;

ch) produces at subordinate industrial enterprises various types of equipment, metal constructional structure and spare parts for the production and operating needs of enterprises and organizations of the Committee's system, as well as consumer goods;

sh) organizes work to create safe working conditions at production facilities, to introduce new and more effective means and methods for preventing production injuries and accidents, and to observe the rules for fire safety and for production sanitation; and supervises the agency's militarized guards;

shch) supervises work on the selection, training and improvement of the skills of supervisory, engineer, technician and white-collar and blue-collar workers, on the correct use thereof, and on strengthening labor and production discipline, and develops and introduces progressive forms of wages and work standardization;

e) organizes, jointly with trade-union organs, socialist competition within the Committee's system and, in the established procedure, awards advanced workers emblems and honorary certificates, confers honorary titles and best-worker titles on them by trade, uses other types of incentives, and monitors the observance of collective agreements in the branch.

5. Goskomnefteprodukt USSR, in order that it may execute the tasks charged to it and perform its functions, is granted the right to:

a) check at ministries and agencies, and also at enterprises, institutions and organizations, regardless of their departmental subordination, the rationality of the use of petroleum products, observance of the rules for receiving, storing, dispensing and transporting them and the correctness of the establishment and application of consumption norms, execute measures for reducing petroleum-product consumption and for economizing on their use, and give instructions about eliminating violations of the rules and norms for the use of petroleum products, which are mandatory for execution.

b) recruit specialists of the ministries and agencies and enterprises, institutions and organizations, in coordination with the appropriate supervisors, for participation in the conduct of inspections;

v) hear reports and commmunications of the representatives of ministries and agencies, and also of the supervisors of enterprises, institutions and organizations, on questions that are within the Committee's jurisdiction;

g) approve, for USSR ministries and agencies and Union republics, tasks on average reduction in norms for the consumption of petroleum products that are on the Committee's products list;

d) execute the necessary regulation of the shipment of petroleum products from all pouring facilities, setting the procedure and priority for supplying petroleum products for the Union republics, USSR ministries and agencies, export, and individual enterprises and organizations.

e) allocate petroleum products additionally to customers in accordance with the requisitions of USSR ministries and agencies and Union-republic councils of ministers during the current year, except for petroleum products, the additional allocations of which are made by other state organs.

zh) introduce into quarterly plans of Union-republic goskomnefteprodukts and of enterprises and organizations that are directly subordinate to the Committee, revisions in the amounts of sales and overhead outlays, including transport, and of profit, no later than 10 days before the end of the quarter, if the necessity for the correction ensues from changes in the established procedure of plans for the recovery, production, shipment and hauling of crude oil and of petroleum products. The indicated corrections are made within the appropriate plan indicators that are established for the Goskomnefteprodukt USSR system as a whole, without change in the mutual relationships with the budget;

z) establish discounts from wholesale prices for petroleum products where settlements are made between organizations subordinate to Union-republic goskomnefteprodukts with respect to intrarepublic shipments;

i) obtain

from USSR TsSU [Central Statistical Administration] the statistical data necessary for developing plans to provide the people's economy with petroleum products and for checking their fulfillment; and

from USSR ministries and agencies and Union-republic councils of ministers, and also directly from the Moscow and Leningrad city ispolkoms and enterprises and organizations, the data necessary for developing, realizing and checking on fulfillment of the plan for providing petroleum products to the people's economy, statistical and accounting reporting which is conducted in the forms approved in the established procedure, as well as statistical data of agency reporting and other information about the production, delivery, use and surpluses of petroleum products.

6. Goskomnefteprodukt USSR is guided in its activity by the laws of the USSR, other decisions of the USSR Supreme Soviet and its Presidium, decrees and instuctions of the USSR Council of Ministers, this Statute, and other standardized enactments, and it insures the correct application of existing legislation at enterprises, institutions and organizations of the Committee's system.

Goskomnefteprodukt USSR makes it a general practice to use legislation within the Committee's system on questions that are within its jurisdiction, develops recommendations for its improvement, and introduces them in the established procedure to the USSR Council of Ministers.

7. Goskomnefteprodukt USSR, in executing functions connected with the activity of Union-republic goskomnefteprodukts and subordinate enterprises, institutions and organizations in the areas of planning, science and technology, capital construction, the supplying of materials and equipment, financing and credit, personnel, and labor and wages, as well as in the area of economic, scientific, technical and cultural ties with foreign countries, is guided by the General Statute on USSR Ministries.

8. Goskomnefteprodukt USSR is headed by a Chairman named in accordance with the USSR Constitution by the USSR Supreme Soviet, or, in the period between sessions, by the Presidium of the USSR Supreme Soviet, with later submission for confirmation by the USSR Supreme Soviet.

Deputy chairmen of Goskomnefteprodukt USSR are named by the USSR Council of Ministers.

The Chairman of Goskomnefteprodukt USSR bears personal responsibility for fulfilling the tasks assigned to Goskomnefteprodukt USSR and for its execution of its functions, establishes the degree of responsibility of the Chairman's deputies and of the supervisors of the structural subunits of the Committee's central apparatus for supervision over various areas of the Committee's activity and of the operation of subordinate enterprises, institutions and organizations.

The Chairman of Goskomnefteprodukt USSR, in fulfilling the obligations he is charged with, enjoys the rights granted to USSR ministries.

9. A board is formed within Goskomnefteprodukt USSR that is made up of the Chairman of Goskomnefteprodukt USSR (the chairman of the board) and the Chairman's deputies, by reason of their positions, plus other supervisory workers.

The members of the Committee's board are confirmed by the USSR Council of Ministers.

10. The board of Goskomnefteprodukt USSR examines at its regularly conducted sessions the main questions of the development and practical supervision of the branch, improvement of organization of the work of supplying the people's economy with petroleum product, drafts of standard and other important documents that are introduced in superior organs, as well as drafts of decrees, orders and instructions of the Committee, and questions of checking the performance, selection, training, utilization and improvement of skill levels of personnel; hears reports and statements by supervisors of the Union-republic goskomnefteprodukts, of structural subunits of the Committee's central apparatus, and of enterprises, institutions and organizations of the Committee's system; and examines other questions that are within the jurisdiction of Goskomnefteprodukt USSR.

11. Goskomnefteprodukt USSR issues orders and instructions on the basis of and in execution of the laws of the USSR and other decisions of the USSR Supreme Soviet and its Presidium which are decreed or ordered by the USSR Council of Ministers, and gives instructions that are mandatory for execution by structural subunits of the Committee's central apparatus, Union-republic goskomnefteprodukts, and enterprises, institutions and organizations of the Committee's system, and verifies their execution.

Goskomnefteprodukt USSR also issues, within its jurisdiction, decrees that are mandatory for performance by ministries and agencies, and also by enterprises, institutions and organizations, regardless of their departmental subordination.

Goskomnefteprodukt USSR issues, when necessary, decrees, orders and instructions, jointly or in coordination with other ministries and agencies.

12. Goskomnefteprodukt USSR has an internal scientific and technical council for reviewing and searching for optimal solutions to problems of scientific and technical progress and to increasing effectiveness in supplying the people's economy of the country with petroleum products.

The scientific and technical council includes prominent scientists, who supervise workers and highly qualified specialists of Goskomnefteprodukt USSR and supervisory workers and specialists of ministries, agencies, enterprises, scientific-research organizations and higher educational institutions.

The personnel composition of the scientific and technical council and the Statute on it are confirmed by the Goskomnefteprodukt USSR Chairman.

13. Goskomnefteprodukt USSR creates, reorganizes and eliminates in the established procedure enterprises, institutions and organizations of Union subordination within the ceilings on blue-collar and white-collar worker manpower and on the general wage fund, and it approves statutes (regulations) that determine their authority.

14. The composition of Goskomnefteprodukt USSR includes agency arbitration for examining economic disputes between enterprises, institutions and organizations of the Committee's system.

15. The Committee's Chairman can convert structural subdivisions of the central apparatus of Goskomnefteprodukt USSR to cost accounting.

16. The structure and manpower of the central apparatus of Goskomnefteprodukt USSR are approved by the USSR Council of Ministers.

The table of organization of the Goskomnefteprodukt USSR apparatus, as well as the statutes on its structural subdivisions, are confirmed by the Committee's Chairman.

17. Goskomnefteprodukt USSR has a seal with a representation of the USSR Coat of Arms and with its designation.

Approved by
USSR Council of Ministers
Decree No 985 of 11 November 1982

Changes That Are Introduced into the Decisions of the USSR Government in Connection with Approval of the Statute About USSR Goskomnefteprodukt

1. In the USSR Council of Ministers Decree No 172 of 28 February 1964, "On Regularizing the Release of and Payments for Fuel and Lubricant Materials for the Refueling and Servicing of Automotive Vehicles en Route During Intercity Hauling":

a) Item 3 is promulgated as follows:

"3. Establish that coupons for the issuance of fuel and lubricants be prepared in accordance with the orders of Goskomnefteprodukt USSR to enterprises of the USSR State Committee for Publishing Houses, Printing Plants and the Book Trade";

b) Paragraph 1 of item 5 is promulgated as follows:

"5. Establish that USSR Goskomnefteprodukt and USSR Gosbank, with the participation of the USSR Ministry of Finance, develop and approve:".

2. In paragraphs 1 and 2 of item 10, and also in paragraph 1 of item 13, of the Statute on the State Committee of the USSR Council of Ministers on Material and Technical Supply (USSR Gossnab), which was approved by USSR Council of Ministers Decree No 352, 15 May 1969 (SP SSR, 1969, No 13, item 69), remove the respective words: "and main administrations for the supply and marketing of petroleum products," and "and of main administrations for the supply and marketing of petroleum products."

3. In USSR Council of Ministers Decree No 1057, 31 December 1975, "On Measures [illegible] Improving Organization of the Collection and Use of Spent Petroleum Products":

a) In paragraph 1 of item 2: replace the words "USSR Gossnab" with the words "Goskomnefteprodukt USSR";

b) In paragraph 1 of subitem b of item 2, remove the words, "in 1976-1977, and Mosgorispolkom--beginning with 1976."

v) Paragraph 1 of item 9 is promulgated as follows:

"9. Establish that the Association for the Collection, Reclamation and Rational Use of Spent Petroleum Products (Vtornefteprodukt) of Goskomnefteprodukt USSR is the country's prime organization in this field."

g) Paragraph 3 of item 10 is promulgated as follows:

"The procedure and conditions for payment of bonuses for the collection, storage and transporting of spent oil and other petroleum products are developed and approved by Goskomnefteprodukt USSR in coordination with the State Committee of the USSR on Labor and Social Questions, the USSR Ministry of Finance, and the AUCCTU."; and

d) Item 1, paragraph 4 of item 2, and items 5 and 8 are rescinded.

4. To item 89 of the Statute on Shipments of Products for Production-Equipment Purposes, which was approved by USSR Council of Ministers Decree No 161, 10 February 1981 (SP USSR, 1981, Nos 9-10, item 62), add the words, "and for petroleum products--in accordance with declarations of Goskomnefteprodukt USSR or Union-republic goskomnefteprodukts," after the words, "of the organ of material and technical supply."

11409
CSO: 1822/135

SYNOPSES OF ARTICLES IN 'OIL AND GAS INDUSTRY', JANUARY-MARCH 1983

Kiev NEFTYANAYA I GAZOVOYA PROMYSHLENNOST' in Russian No 1, Jan-Mar 83 pp 56-57

UDC 665.63.338.45

FORMATIONAL FEATURES OF CLOSURE COSTS FOR PETROLEUM PRODUCTS

[Synopsis of article by V. A. Bugrov and V. M. Tyukov, pp 9-12]

[Text] This article makes a critical evaluation of the existing technique for forming closure costs for automotive gasoline, diesel fuel, fuel mazut and oil whose formation basis is currently closure outlays for energy coal and natural gas. Suggestions are made for improving the technique of calculating closure costs for fuel mazut, based on the closure volumes of oil extraction with outlays associated with mazut refining.

It has been noted that the closure costs for noninterchangeable types of product (automobile gasoline, diesel fuel) play the role of "shadow" prices.

Based on the fact that the steep rise in direct adjusted expenditures for oil begins with the last three-five percent of its extraction from fields which cover the country's demand for oil, the closure costs for it should be defined as the weighted mean expenditures of the closure fields plus the expenditures for transporting it to the consumer. Three references.

UDC 006.83:622.276(477.8)

STANDARDIZATION SERVICE IN THE "UKRNEFT'" ASSOCIATION

[Synopsis of article by Ye. B. Eydel'man and G. K. Dudin, pp 12-13]

[Text] Organization and composition of standardization services and quality in the association "Ukrneft'" are examined. The basic trends for work of the standardization services at different levels of management are listed. Characteristics of certain standards of the association which regulate the operation of the standardization service and quality are presented.

UDC (551.24:552.5)+553.98.061.4(477.53)

STRUCTURAL FEATURES OF THE UPPER SERPUKHOVSKIY RESERVOIRS IN THE DNIEPER-DONETS BASIN

[Synopsis of article by M. I. Blank, V. A. Krivosheya and Yu. V. Trukhachev, pp 17-19]

[Text] This article presents the results of comprehensive processing of geological-geophysical information to investigate the upper Serpukhovskiy substage collectors of the Goglevsko-Abazovskiy structural zone. Features are revealed and laws governing the spatial distribution of sand beds, their structure and change in collector properties of rocks in the zone are established. An evaluation is made of the outlook for oil and gas content of the upper Serpukhovskiy deposits in the Gogolevsko-Abazovskiy zone and on the structures of its surrounding region. Two illustrations.

UDC 551.24:553.982(477.8)

TECTONIC LINEAMENTS IN THE CARPATHIAN REGION

[Synopsis of article by R. V. Mal'skaya, pp 19-21]

[Text] It is noted that in the Carpathian oil and gas province there are "transverse" deep ancient dislocations (lineaments) which cut different tectonic zones and are associated with planetary fracturing of the earth. One of these dislocations of submeridional direction which is common for the geosynclinal and platform regions, in the opinion of the authors, passes along the known Radekhovskiy and Viktorovskiy faults. The elevation whose anticlinal part in the Borislavsko-Pokutskiy zone of the Ciscarpathian trough is expressed as bends in certain structures is its reflection in the upper part of the sedimentary mass. Continuation of the western slope of this elevation, to which a number of fields are confined, to the south is recommended by the authors as a primary object for prospecting for oil and gas formations. One illustration, eight references.

UDC 550.4:551.735(477.4/6)

GENERATION POTENTIAL OF HARD COAL DEPOSITS IN THE DNIEPER-DONETS BASIN

[Synopsis of article by Ye. F. Shevchenko and T. A. Sirota, pp 22-24]

[Text] This article examines oil and gas producing properties of hard coal deposits in the Tournaisian-lower Visean, upper Visean-Serpukhovskiy, middle Carboniferous and upper Carboniferous-lower Permian complexes of the Dnieper-Donets Basin. Data are presented on the content of organic substance, its facial-genetic type, degree of catagenesis, hydrocarbon coefficient, features of the structural-group composition of the hydrocarbons confined to lithological differences, and other geochemical indicators based on laboratory studies.

Using the results of investigating the geochemical characteristics, a qualitative evaluation is made of the generation potential of hydrocarbons in the examined oil and gas-source complexes. One illustration, three references.

UDC 550.83/84

ACCURATE DETERMINATION OF FORMATION PARAMETERS WITH C_1 CATEGORY RESERVES

[Synopsis of article by N. S. Predtechenskaya, pp 25-26]

[Text] Quantitative requirements for accuracy of parameters of formations and reserves evaluated for category C_1, in the form of tolerances for relative errors are established for oil and gas fields of the Dnieper-Donets Basin which in degree of complexity belong in the II group. The established tolerances can serve as a criterion for the readiness of the explored formations for development. One illustration, two tables, three references.

UDC 622.244:553.98

STRIPPING AND WORKING OIL AND GAS BEDS

[Synopsis of article by M. M. Ivanyuta, pp 29-32]

[Text] This article provides scientific grounds for ways to improve the quality of stripping and working beds in order to improve the efficiency of prospecting and exploring oil and gas fields in the Ukraine. Eleven references.

UDC 622.248.3

GROOVE FORMATION IN WELL SHAFTS

[Synopsis of article by N. I. Datsishin, M. G. Sakhrin, A. A. Turko, et al., pp 32-33]

[Text] A study is made of the question of groove formation in the process of drilling in wells on the Ciscarpathian fields. The duration of groove formation in different geological conditions is defined. The grooves are classified according to the nature and degree of danger. Measures are proposed for improving the well design and drilling technology. One illustration.

UDC 622.24.053

PREVENTION OF ACCIDENTS WITH DRILLING PIPES

[Synopsis of article by I. Ye. Prishlyak, M. Ye. Klyun', and I. M. Magun, pp 34-35]

[Text] The basic reasons for accidents with drilling strings in Ukrainian fields are examined based on an analysis of factual material.

It has been established that the main type of accident is fatigue breakage of drilling string elements. The main factors which influence the development of fatigue breaks in the drilling strings are revealed, and recommendations are made for preventing this type of accident. Two illustrations, one table, two references.

UDC 622.244.49.404.8

FOAM-FORMING FLUIDS FOR CAPPING AND WORKING WELLS

[Synopsis of article by A. M. Sharipov, Kh. Sh. Sabirov, T. G. Kutlubayeva, Yu. S. Klochko, pp 38-41]

[Text] Results are presented from laboratory studies to develop the optimal formula of three-phase and two-phase forms using different surfactants.

Formulas of foam systems are developed for capping and working wells under conditions with low bed pressure. Nonionogenic surfactants are recommended as the foam formers.

It is recommended that wells be capped by three-phase foam, and worked by two-phase aqueous foam, well productivity should be restored and improved by alcohol-acid foam, and products of reaction, water and filtrate should be removed in a foamed state. Results are presented of experimental-industrial work.

UDC 622.276.5.014

CALCULATING OIL EXTRACTION AT THE INITIAL STAGE OF WORKING A FORMATION

[Synopsis of article by M. V. Nimets, pp 35-36]

[Text] Based on an analysis of characteristics of development, the dependences of the change in oil recovery level on the operating regimes of the bed are established. The dependences are the basis for the proposed technique of calculating oil extraction at the initial stage of working small fields. The technique uses a limited quantity of bed working indicators which are accessible in field practice: oil extraction by years, fund of extracting wells, time used up, results of hydrodynamic well studies.

The calculations for many deposits to be worked indicated good convergence of the calculated and actual levels of oil extraction.

UDC 622.691/692.4

DIAGNOSTICS OF A GAS PIPELINE LAID IN A MOUNTAINOUS LOCALITY

[Synopsis of article by T. L. Levitskiy and I. V. Perun, pp 43-44]

[Text] Questions are examined of technical diagnostics of the gas pipelines "Bratstvo" and "Soyuz" on sections laid in the mountainous conditions of the Carpathians. The technological plan is presented for comprehensive studies of the dynamics of landslide processes and stressed-deformed condition of the pipe metal which are the basis for evaluating the operating reliability and for developing measures to improve it.

UDC 620.179.14:621.791.011

MONITORING GAS PIPELINE METAL CONDITION

[Synopsis of article by G. F. Kolot, pp 44-45]

[Text] This article relates the experience of introducing a temporary technique and experimental instruments to evaluate the stressed-deformed state of the line section of main gas pipelines of the all-union production association "Ukrgazprom" in order to prevent accidents caused by shifting of the ground. The effectiveness of introducing these methods is indicated.

Measures are presented which are aimed at creating means of technical diagnostics of the stressed-deformed state of the line section of main gas pipelines and connecting compressor stations planned for the sector for the 11th Five-year Plan. Two references.

UDC 622.692.2.621.311.4

TECHNOLOGICAL STANDARD FOR ELECTRICITY CONSUMPTION FOR PETROLEUM PRODUCT PIPELINES

[Synopsis of article by M. D. Seredyuk, I. Kh. Khizgilov, I. V. Yakimiv, and V. P. Lisafin, pp 45-47]

[Text] A technique is presented for calculating the technological standard of electricity consumption for pumping petroleum products through pipelines with branches which collect the petroleum products at the bulk plants. The technique takes into consideration the features of electricity consumption standardization for petroleum product pipelines through which different grade petroleum products are successively pumped. Four references.

UDC 665.765+404.038.2M(1)

POTENTIAL RAW MATERIAL FOR SULFONATE ADDITIVE PRODUCTION

[Synopsis of article by V. T. Grushchak, Ye. A. Litkovets, R. V. Filakovskiy, et al., pp 49-51]

[Text] The possibility is indicated of obtaining sulfonate additive S-150 from hydrocarbon raw material isolated chromatographically from extracts of furfural purification of oil distillates of fraction 350-420 and 420-500°C. Three tables, three references.

UDC 665.767:621.22/9(088.8)

COOLING CAPACITY OF THICKENED MINERAL QUENCHING OILS

[Synopsis of article by T. I. Tkachuk, N. Ya. Rudakova and B. K. Sheremeta, pp 51-52]

[Text] The cooling capacity of quenching oils thickened by viscous additives is studied. It is indicated that the rise in viscosity with thickening of the mineral oil of a definite fractional composition does not influence the cooling capacity. Two illustrations, two tables, three references.

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9035
CSO: 1822/149

OIL AND GAS

BRIEFS

OIL EXTRACTION INTENSIFIED--KRASNOVODSK (Turkmen SSR)--The output of old wells at the Barsa-Gel'mes oil deposits is increasing. A system for intensifying fuel extraction has entered operation here. Pumping stations feed water into the seam, thus increasing the pressure in the interior. It has been decided also to create such systems at other oil fields in the republic. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 27 Jan 83 p 1] 9069

TOMSK OIL EXTRACTION MILESTONES--TOMSK--The 100 millionth ton of oil has been extracted since development of the oblast's oil fields by the Tomskneft' petroleum association collective began. Development of the underground stocks here began 17 years ago. Each five-year plan the Tomsk workers have increased oil production growth by half. Working by shifts aids the oil workers in achieving high indices. [Text] [Kishinev SOVETSKAYA MOLDAVIYA in Russian 20 Jan 83 p 1] 9069

DEEP PETROLEUM PROSPECTING--VUKTYL (Komi ASSR), 3 Jan 83--Currently the drillers of the Komigazprom gas industry association, having successfully completed two years of the Five-year plan, are prospecting the lower levels of the Vuktyl gas deposits. Six boreholes have been drilled to a depth in excess of 5,500 meters. This is 2,000 meters lower than the stratum currently in production. The bottom of borehold No 42 has reached the 6,401 meter mark. Drilling is in progress on another extremely deep borehole, No 58, which has a projected depth of 6,500 meters. The Komigazprom prospectors use widely a domestically produced drilling tool made out of ultra-hard materials. Fifteen thousand meters of boreholds are drilled annually here using synthetic diamond bits. [By Correspondent A. Kurkov] [Text] [Moscow PRAVDA in Russian 5 Jan 83 p 2] 9069

ELECTRONIC GAS PRESSURE REGULATORS--SHEVCHENKO--The output of wells at the Eastern Zhetybay oil fields, where extraction is conducted using the gas-lift method, has almost doubled. Difficult geological conditions require that the gas pressure in the borehold be changed depending on the flow of oil. The operator, who services dozens of wells, did not always succeed in optimally adjusting the compressors. Due to this a considerable amount of fuel was not extracted from the stratum. Electronic control of the operation of the gas distributing batteries was instituted. Instruments instantaneously register the slightest variation from the desired norm, and transmit the appropriate command to the pressure regulators. As a result, the oil field workers began to obtain a maximum amount of oil with a minimum expenditure of casing head gas. [Text] [Ashkhabab TURKMENSKAYA ISKRA in Russian 30 Nov 82 p 1] 9069

PETROLEUM PLANT AT MAGISTRAL'NYY--A major bulk petroleum plant has entered operation in the settlement of Magistral'nyy. It will provide fuels and lubricants to consumers, who are becoming ever more numerous in the Lena-Kunerma section, which has gone into full operation. These include lumbermen, geologists and BAM construction workers. Besides the oil storage tank, the complex includes a railroad siding, a loading ramp and a pumping station. An automated fueling system guarantees rapid loading of tank trucks. The TASS correspondent was told that the highly mechanized enterprise will be ecologically clean. Discharges will be completely cleaned. Comfortable living quarters are being erected for the plant's workers. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 12 Jan 83 p 1] 9069

TEDZHEN GAS PRODUCTION UP--Yet another gas production well has been put in operation at the Tedzhen oil field. It is the sixteenth. "Bringing this new source of the "blue fuel" into operation enables our oil field workers to raise monthly gas production to 105 million cubic meters," states V. A. Zilin, chief of the Tedzhen section of the Shatlykgazdobycha oil production association. "The inflow of the most valuable resource, gas condensate, will also significantly increase." The well coordinated actions Senior Section Operator O. Berdyyev, and operators M. Mekhmanov, T. Germanov, S. Kurambayev, and B. Begnazarov, all experienced gas production experts, ensures the equipment is operating smoothly. [Text] [Ashkhabad TURKMENSKAYA ISKRA in Russian 11 Jan 83 p 2] 9069

GAS-LIFT REVIVES WELLS--Approximately 20 seemingly spent wells have been revived owing to the gas-lift system which has entered operation at the Barsa-Gel'mes oil field in Turkmenistan. With its start-up, automation of oil extraction here has been completed. "We have been exploiting the ability of gas to raise oil for a number of years," stated V. Petrov, general director of the Turkmenneft' oil association. "And just the same we still have many ways to improve. The main one is to make oil production more economical. In solving large tasks, we have no right to be wasteful even in small things. The November 1982 CPSU Central Committee Plenum so instructs us." The association collective has planned to significantly reduce by the end of the five-year plan the relative consumption of gas used in increasing strata output. [Text] [Ashkhabad TURKMENSKAYA ISKRA in Russian 27 Nov 82 p 2] 9069

DAULETABAD OIL FIELD OPERATIONAL--ASHKHABAD, 27 Nov 82--To find gas in the severe Turkmenistan desert is a great accomplishment for the prospectors. But this is only the first step. It is still necessary to send the "blue fuel" to our apartments and to enterprises. Here at the Dauletabad oil field, gas for industrial needs has been obtained from the first operational well. "This even is doubly welcome," states V. Talday, chief of the All-Union Turkmengazprom [Turkmen Gas Industry] Association. "It took place several months before the planned time." I was at Dauletabad a year and a half ago. Grey sands were all around, and a single derrick stood in the burning haze. Now one sees the azure pyramids of well sites, and the white rigs and apparatuses. The deposit is intersected by a main gas pipe-line. Smaller steel threads branch off it. Water lines extend on the side, bending around the mounds of sand dunes. An asphalt ribbon of road has appeared. Four electric power stations driven by a powerful aircraft engine operate on the energy of the "blue fuel." Master Driller and Hero of Socialist Labor, P. Ya. Shcheblykin, and his brigade are drilling a borehole in "heavy" rock, successfully overcoming the earth's resistance. Soon the gas of Dauletabad, like the flow of a might river, will run into the gas pipeline extending from Central Asia to the Center. Ten operational wells already have been received, and four more will be rendered for the 60th Anniversary of the USSR. [Correspondent A. Grachev] [Text] [Moscow PRAVDA in Russian 28 Nov 82 p 1] 9069

ARCTIC DRILLING--YAKUTSK--Not far from the tundra settlement of Taymylyr, which is a stone's throw from the shore of the Arctic Ocean, the northermost drilling rig in Yakutiya has begun production. The shift of Foreman Anatoliy Drobyazko penetrated the first meters of permafrost, opening a new page in the history of conquering the Arctic--that of petroleum. Northerners have always known that oil exists in the central Arctic. From time immemorial, nomadic reindeer breeders and hunters have burned the petrified output of oil--light and hot boghead coal. In not so distant times, in the Arctic settlement of Tiksi, boghead coal was distilled into benzine and fuel oil. Old timers in the settlement gladly show guests the strange architecture of the brick building which is the world's northermost oil distillery. Therefore, the task of the Sangar oil and gas prospecting expedition is not to discover Arctic oil, but to assess its reserves and prospects for production, and to determine the depths of the bed. Before the borer began to bite into the frozen ground, the pilots of the Tiksi aviation enterprise had much work to do. They delivered materials, equipment and products into the depths of the Bulun tundra. Then the riggers rapidly erected the derrick, taking care that it be not the normal but the northern variant borehold: a 54 meter rig, planked and heated to a height of 20 meters. This is very important in the Arctic. All the facilities for the work of the prospectors have been created at the drilling site. Therefore the shift, working thousands of kilometers from their base settlement, feel themselves at home. [By O. Borodin and L. Kapelyushnyy] [Text] [Moscow IZVESTIYA in Russian 5 Jan 83 p 2] 9069

BITUMEN PLANT OPENS--MAZHEYKYAY--A bitumen plant has entered production at the oil refinery. The first product has been obtained. It will be received by the builders in the Baltic region. In the coming year, the local construction trust of the Latvian Ministry of Construction and the subcontractors are to bring the enterprise's second line into production. [By V. Tumanov] [Text] [Moscow STROITEL'NAYA GAZETA in Russian 21 Jan 83 p 2] 9069

OFF-SHORE WELLS THREATENED--BULLA-MORE (Azerbaijain SSR), 14 Nov 82--The high output gas condensate wells of the oil field here are located on individual manmade islands--metal platforms. The winds and downpours of the last few days, and the noticeable drop in air temperature, threatened to cause serious difficulties. The collective had the task of averting a mishap. Well number 56 was of particular concern. As a result of the measures taken, its high productivity was successfully preserved. The remaining facilities of the oil field are operating without interruption. The level of oil extraction has not declined. The storm has not yet calmed down. But the courageous off-shore oil workers are on the alert. Engineer M. Mamedov and workers I. Sharifov, S. Gusev and others are vigilantly standing their difficult watch. [By Correspondent L. Tairov] [Text] [Moscow PRAVDA in Russian 15 Nov 82 p 7] 9069

TYUMEN GAS WORKERS' OBLIGATIONS--The collective of the Tyumengazprom gas industry association, winner of the 1982 all-union socialist competition, has undertaken high socialist obligations for this year. It has resolved to significantly increase the output of valuable fuel, and achieve the level of labor productivity planned for 1983, by efficient use of industrial capacities. The gas field workers ensure that the operational wells, complicated equipment, and complex gas treatment plants work without interruption. [Text] [Moscow PRAVDA in Russian 3 Feb 83 p 2] 9069

PLANS FOR EXPERIMENTAL DRILLING--The location for drilling the Tyumen super deep borehole has been determined. It will be very important for increasing the efficiency of oil and gas prospecting and geological exploration efforts. This decision was adopted at the final session of the interdepartmental scientific council on "Studying the Earth's Interior and Super Deep Drilling." Leading scientists and specialists of the USSR Ministry of Geology and the USSR Academy of Sciences participated in the session. "It is planned that the Tyumen super deep borehold, which has a projected depth of up to 10 kilometers, will be drilled in the northern region of the Urengoy gas field in Western Siberia," commented USSR Minister of Geology Ye. A. Kozlovskiy, a participant in this working conference of researchers and prospectors, and chairman of the State Committee of the Council of Ministers on Science and Technology. "At first the borehole will pass through young formations which contain deposits of oil and gas. Then it will go into older rock and help to assess its prospects for containing deposits of hydrocarbon resources. Simultaneously with drilling the bore hole, comprehensive research of the deep structure of the Earth's core will be conducted. In particular, the plan of work includes studying the structure, composition, and physical features of rock, determining more exactly the speed of propagation of seismic waves in the earth's crust, and revealing zones of abnormally high and low pressures and temperatures. Drilling the Tyumen well will begin a new stage of the study of the USSR's deep geological interior and the systematic and thorough study of the Earth's crust and upper layer of its mantle throughout the entire territory of the country. Drilling the Kol'skiy (to 13 kilometers) and Saatly boreholes will continue during the 11th Five-Year Plan. It is planned that the Anastas'yev-Troitsk and Ural super deep (12-15 kilometers) boreholes will be started. Simultaneously, the drilling of six deep boreholes will begin, including three (Dnepr-Donets, Prikaspiyskoye and Timan-Pechora) in oil-bearing regions, and three (Muruntau, Noril'sk and Krivorozh) in mining regions. Representatives of 15 of our industrial branches--machine building, metallurgy, electronics, computer technology, instrument building and others--relying on the richest experience, are participating in implementing Tyumen's most prominent scientific and technical experiment." [Text] [Moscow IZVESTIYA in Russian 1 Feb 83 p 2] 9069

HEAT TREATMENT APPARATUS INTRODUCED--At the start of the new year, the VNIIPTneftemash [All-Union Scientific Research, Planning and Technological Institute of Petroleum Machine Building] experimental factory sent to the Ural machine builders--the Ochersk Machine Building Factory of Perm Oblast--a unique semi-automated apparatus for heat treatment of deep well pump rods with high frequency current. Tempered rods last longer and are more reliable in operation. This is the second apparatus in succession developed by specialists of VNIIPTneftemash. The first was introduced in the rod shop of the Machine Building Factory imeni Lieutenant Schmidt. However, the new one is more advanced. It was mechanized such labor intensive operations as loading and unloading rods, and has improved a number of subassemblies. The productivity of the apparatus is high: 75 rods per hour; 300,000 per year. The apparatus was developed per order of the USSR Ministry of Chemical and Petroleum Machine Building. Active participants in its design and manufacture included Yu. Ryzhov, VNIPTneftemash chief project designer; Group Leader F. Mustafayev; Design Engineer T. Belov; and leading workers of the experimental factory--B. Kustov, Yu. Khusnuli, A. Baraksin, A. Bashirov, Yu. Zinin, and A. Martyshkin. From the start of the new year, the collective of the experimental factory set about to fulfill the important orders of the machine builders. Presently a mechanized assembly line of pumping units for the Bakinskiy Rabochiy factory, technological equipment for a new reduction gear shop at the Kishlin Machine Building Factory, and other orders are in operation. It is currently planned to increase the amount of experimental efforts by 200,000 rubles over last year. [By K. Manafov] [Text] [Baku VYSHKA in Russian 9 Jan 83 p 1] 9069

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NON-NUCLEAR POWER

PROGRESS IN EKIBASTUZ GRES-1 DEVELOPMENT REPORTED

Moscow IZVESTIYA in Russian 31 Jan 83 p 1

[Article by V. Shchepotkin, in-house IZVESTIYA correspondent: "Energy Flow Gathers Strength"]

[Text] Three noticeable events occurred simultaneously in the development of the country's power engineering. Each of them is associated with a city whose very name has become a symbol of the rapidly developing fuel and energy complex in the northeast Kazakhstan. In Ekibastuz, at the GRES-1 which is under construction, the fifth block with power of a half billion kilowatts has begun to operate. After this, the current is directed from here via two "energy bridges" to Omsk and Kokchetav.

Any of these events is important in itself. Nevertheless in the forefront is the industrial loading of the next block in the GRES. This is not an ordinary fact, if only because with the start-up of the fifth block, construction of the first-born of the Ekibastuz GRES reached the finish line. It is common knowledge that there will be a total of four powerful power plants here operating on inexpensive coal of the new all-union "stokehole."

The fifth block, the main unit of the second phase, produced an industrial current. With its start-up, the Pavlodar Oblast is now responsible for 45 percent of the energy potential of the entire republic. After it, because of the line method of installation, the next blocks of the station are approaching the stage of readiness. Assembly of the sixth unit is reaching the end. The seventh is almost half ready, and work on the last, eighth block of the unit is speeding up. It must be completely finished this year.

Gaining strength, the energy giant produces more energy. Power transmission lines are already extending to different areas over the steppe. After start-up of the fifth power unit, another two powerful transmission lines will have an industrial load. The "energy bridge of freedom" is the name for the first of them which connected Ekibastuz with Omsk. The Kazakhstan builders were helped to construct it by the workers of the Omsk industrial enterprises, transportation workers of West Siberia. Because of the precise organization of labor, the LEP-500 which extends 400 kilometers was built in only 2 years, considerably ahead of schedule. West Siberia will receive several billion kilowatt-hours of Ekibastuz power this year already.

At the same time as this line, the first phase of an even more powerful energy bridge was put into operation. This is the LEP-1.150 whose construction was determined by the decisions of the 26th CPSU Congress. Its final point is in the Urals. Now a section from Ekibastuz to Kokchetav has been loaded, a current with voltage of 500 kilovolts has been temporarily sent on it.

The new electrical rivers which began from the turbines of the Ekibastuz GRES-1 have noticeably improved the energy supply of two major regions at once, and made it possible to abandon shipping tens of thousands of tons of coal to these areas.

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NON-NUCLEAR POWER

PROGRESS ON CONSTRUCTION OF EKIBASTUZ GRES-1 REPORTED

Moscow TRUD in Russian 25 Feb 83 p 1

[Article by V. Bugayev: "Ekibastuz Cascade"]

> [Text] The four GRES with total power of 16 million kilowatts will be constructed at the Ekibastuz fuel and energy complex. The electricity generated by them will flow on unique superlong distance lines of alternating and direct current to the center of the country, to the Urals and to Siberia.

Five power units of the eight are already operating at the GRES-1 which is under construction. They have generated the first 15 billion kilowatt-hours of power. Nearby, several kilometers away, the second thermal plant is under construction. Its first power unit should provide an industrial current by the beginning of 1985.

"Our fuel and energy complex has adopted the line system of erecting thermal stations as the basis," relates the director of the GRES-2 which is under construction Yu. Ivanov. "It will preserve the main cadres of builders who already have experience, who have erected the first station, to take into consideration the permitted miscalculations, and as a result to significantly reduce the construction time for the important power engineering facilities."

We are going with Yuriy Viktorovich through the construction site which extends many kilometers. An enormous foundation pit 552 m long and 165 m wide has already been dug here for the main housing. Twenty two thousand m^3 of concrete were poured into its bottom. Work is going full force at the auxiliary boiler house, the 500-seat cafeteria, the underwater channel and the smokestack. It will be one of the highest in the world, 420 m. It was decided to use a natural basin for artificial water resorvoir at the second and third stations. Hydraulic engineering work has already been completed at it. The day is not far off when it will be filled with 240 million cubic meters of Irtysh water which will travel on the Irtysh-Karagand channel.

The GRES-2 project differs little from the first born of the Ekibastuz power engineering. However, the builders do not intend to automatically transfer here everything that had little justification in practice. New decisions will be used in the layout of the equipment, in the assembly of the additional repair areas in the machine hall of the main housing.

All information arrives hourly to the trade union headquarters for competition of construction of the Ekibastuz fuel and energy complex. Together with the head of the headquarters M. Glukhovskiy we examine the latest reports. "All five operating blocks of the first thermal station reached rated output." "The collective of the association 'Leningradskiy Metallicheskiy zavod' made ready the turbine for the last, eighth power unit." "In the microregion of energy builders, the 140-apartment house has become turnkey." "Conclusion of contracts for socialist competition with collectives of the supplying enterprises on the principle 'worker's relay race' has been completed."

"We are faced this year with putting into operation the last three power units at the first station," says the headquarters head. "This is not an easy task. But we are confident that we will fulfill it with honor."

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NON-NUCLEAR POWER

CONSTRUCTION OF NERYUNGRI GRES ADVANCES

Moscow PRAVDA in Russian 6 Mar 83 p 1

[Article by collective correspondent of PRAVDA, editorial staff of the newspaper SOTSIALISTICHESKAYA YAKUTIYA: "There Will be a GRES in Neryungri"]

> [Text] An important stage of work in developing the Neryungri GRES has been completed: the energy base of the first territorial-production complex in the BAM [Baykal-Amur-trunkline] zone. The main housing has been prepared for the beginning of equipment assembly. Here the first start-up power unit will be placed, a turbine with power of 210,000 kilowatts, and a boiler with output of 600 tons of steam per hour.

Heat has been supplied to the main housing. It is a timely measure. Last winter was a rare one for its harshness, and even now strong winds complicate the work. But the builders have been obliged to start-up the first power unit this year already and they are firmly keeping their word. Sufficient volume of water has been accumulated in the water reservoir on the Olongro River to operate the start-up complex. The reinforced concrete smokestack has risen almost half of its 200 meter height.

On all the leading sections construction work is being fulfilled ahead of schedule. The best brigades are working here. They are led by Hero of Socialist Labor M. D'yachek, veterans of energy construction in the north M. Sokurov, G. Chernyshev, A. Makarov, N. Gura. A temporary unified party organization has been set up at the start-up complex.

The subcontractors of the Yakutsk energy builders, suppliers of materials and equipment are showing great concern for the most rapid start-up of the plant. The collectives of the Tallinn plant "Il'marine," and the production association "Zaporozhtransformator" were among the first to respond to the appeal to set up cooperation on the principle "worker's relay race." Powerful bridge cranes were sent ahead of schedule to the site from Zaporozhye. The collective of the manufacturing enterprise was concerned about improving design reliability with regard for large temperature differentials. At the Angark plant of boiler-auxiliary equipment and pipelines, the orders for the Neryungri GRES were considered primary, and the leading brigades and sections competed for the right to fulfill them.

But, unfortunately, there are troubles at individual stages of the relay race. Among the debtors of the northern construction site is the all-union trust "Energostal'konstruktsiya," and its Novosibirsk plant. In summer of last year the manager of this trust G. Garibov assured the delegation of Neryungri workers that all the shipments will be fulfilled in time.

"However, by March the Novosibirsk plant had not received hundreds of tons of metal designs," reports the head of the administration of construction of the Neryungri GRES V. Kamenev. "These materials are needed for start-up of the first block! Among them are parts of the boiler frame, the scaffold for the production pipelines, service platforms for the turbine and the fuel supply channel."

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NON-NUCLEAR POWER

ROLE OF MAYNSKIY GES EXPLAINED

Moscow IZVESTIYA in Russian 8 Feb 83 p 1

[Article by A. Shcherbakov, in-house IZVESTIYA correspondent: "The Dam Rises"]

[Text] Following the path along the Yenisey to the Maynskiy GES, we now and then stopped oncoming cars, fearing to "jump" the dam being built. But the fears were in vain. Although the construction site is to the side of the road, it is simply impossible not to notice it today. Even from far away the increasing traffic of powerful Bel AZ's, giant cranes with booms extending to the side, and the first enormous concrete structures advertise it.

The Maynskiy GES does not yet enjoy that loud glory as the Sayano-Shushenskiy, the largest in our country. In all parameters it is many times inferior to its older sister and next to it seems to be little more than a toy. Who would be surprised at its future dam of 30-meter height, when the Sayano-Shushenskiy dam today is already over 5 times higher, or the 350,000 cubic meters of concrete which need to be laid versus tens of millions of cubes? There can be no question about the "final result." At the Sayano-Shushenskiy GES ten hydraulic turbogenerator units will be installed with total power of 6.4 million kilowatts, and at the Maynskiy three of 107,000 each, a total of 321,000 kilowatts. No more than that.

"However we will be just, this is not so little. This is half of the Dnepro GES!" excalims A. Bazhenov, the main engineer of the construction administration "Krasnoyarskgesstroy," general contractor for building the Maynskiy hydroelectric power plant. He is right of course. The contribution of the Maynskiy GES to the unified power system of Siberia will be fairly solid: 1.72 billion kilowatt-hours of electricity per year. However, the purpose of the Maynskiy dam is not exhausted by these impressive kilowatt-hours. Its role in the hydraulic power system is more significant.

I will explain what this means. Imagine that tomorrow not 6 units of the Sayano-Shushenskiy will be started up, but all the planned 10. In the morning peak hours when they are amicably starting their work, the water run-off will reach 5,000 cubic meters per second. In the evening, when the demand for electricity is reduced, 5-7 electric machines will be halted, while the run-off respectively will be decreased 2-3-fold. This will happen from day to day. What will happen with such differences with the shores of the Yenisey in the tail race? How will the different water users on the segment from the Sayano-Shushenskiy dam to the Krasnoyarskiy GES reservoir, the workers of the river fleet, fishermen, water suppliers of the villages and cities adjust to this lack of consistency in the river? How will the fish feel?

In a word when the last units of the Sayano-Shushenskiy GES start up, some type of water regulator is needed at the lower tail race which would eliminate the giant differences. The Maynskiy GES has been called upon to play this regulating role.

On these frosty days under the cover of the tarp tents, the brigades of carpenters-concrete workers, fitters continue to increase the spillway part of the dam, concrete blocks on the installation platform for different services, and build the service-production framework.

" By the span of the Yenisey in the Maynskiy GES section," says A. Bazhenov, "it is necessary to prepare a pressure front for passage of the Yenisey water through the hydraulic structure, to lift the spillway part of the dam with its five spillways to the planned marks, do a lot of work on the GES building and the insulation platform. By the start-up of the first unit, it is necessary to lay 200,000 cubic meters of concrete. And by 1985, the dam of the Maynskiy GES, the 'satellite' of the country's largest Sayano-Shushenskiy, must be lifted to its 30-meter height.

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CONSTRUCTION OF TASH KUMYR GES DESCRIBED

Moscow PRAVDA in Russian 7 Mar 83 p 1

[Article by V. Akzhurin, and V. Shirokov special PRAVDA correspondents: "Fifth Stage"]

[Text] Four hydroelectric power plants have already been put into operation on the mountain river of Naryn: At-Bashinskiy, Uch-Kurgan, Toktogul, and Kurpsayskiy. At the end of the current five-year plan, yet another star should be lit on the map of the Nizhne-Naryn hydraulic power cascade symbolizing the Tash-Kumyr GES with power of 450,000 kilowatts. Installation of equipment of the concrete plant has begun here.

The land barely perceptibly moved under our feet. The rumble of a nearby explosion reached us. Smoke and dust scattered rapidly, the wind from the upstream Naryn rolled out of the ravine in a persistent, dense wave.

On the shore, glistening with knives, polished on the rocks, the bulldozers moved: the brigade of mechanized machine operators of Gennadiy Mortikov was cleaning the basin for the building of the future GES. Last year Gennadiy was the four-time winner in socialist competition. This is, so to speak, in the "personal test." The brigade headed by him has become the first for two quarters in a row.

Mortikov told us that in the traditional plan by which the Toktogul and Kurpsayskiy hydroelectric power plants were built, a fairly significant correction has been made. The GES building will stand on the shore, therefore there is no need to expect to span the Naryn and to erect a dam. Its construction can be started even today.

Because of the complicated mining-geological conditions (tectonic faults, loose rocks), it was decided to drill a tunnel of the construction-operating spillway as if by two projections. Initially the upper part with a section 70-75 square meters was selected, and then the lower which will double the diameter of the rock "pipe." The brigade of drillers headed by Fedor Abakumets, and the reinforcers of Tursunbek Shabtanov have distinguished themselves in this work. Both brigades participated in construction of the Kurpsayskiy GES, and even there they made a "famous name" for themselves. Their experience helps them to overcome unexpected obstacles.

"We had only passed 20 meters when we ran into obstructions," relates F. Abakumets. "We had to search for other methods. Now we pass 6 meters and immediately cover the face in a 30-centimeter concrete sleeve. The first 80 meters of the upper stage of 313 have already been passed."

The entire upper ledge should be ready by November. But this schedule could be shortened if there were not aggravating delays. As yet there is no final project for the spillway, a sixth variant is already being proposed. There is no precise geological forecast, what is ahead, what awaits the drillers?

The work on the pioneer area unfolded immediately in several directions, the workshops, bases for control of mechanization and transport workers are being built. Construction of the gravel-sorting and concrete plants is being forced. The greatest attention is being focused on these facilities. The fact is that the construction site needs 500-1000 cubic meters monthly, the concrete still can be brought in from the city of Kara-Kul, the main base of the Naryn hydraulic builders. But soon the construction site will require 10-15,000 cubes, and then they cannot do without their own plants. The "limit" on concrete is already beginning to influence the rates of drilling the spillway.

The construction site has been lucky to a certain degree. nearby there is the minor city of Tash-Kumyr. Many builders of the GES were born here. Nevertheless, the main skeleton of specialists, leaders of the middle team, and installers are coming from Kara-Kul which is 55 kilometers away. Three times a day buses are sent to Tash-Kumyr which carry about 200 people. When the snowstorms begin to blow and the snow falls, the time for transporting people will be lengthened. The construction site urgently needs all-terrain buses but this question has not yet been resolved.

There are other problems at the mountain construction site. Construction of each stage of the cascade is unique, and the Tash-Kumyr is no exception. For many years the hydraulic builders have been associated with the institute "Sredazgidproproyekt." The cascade stations begin from its drafts. There is a constant need for corrections, changes in the engineering and construction solutions, and many questions need to be "coordinated" on the spot and rapidly. The institute has created a section of working planning in Kara-Kul. It is apparently necessary to give it greater independence in solving the persistently developing problems.

The party committee secretary V. Shinko told us that the builders are working with initiative and they have the ability to do a lot. But they are being held back by poor supply. Hundreds of telegrams, thousands of telephone calls, and trips of the "go-getters," even this does not help at times. Often the Kuvasayskiy cement plant lets down the construction site, and there is a shortage of lumber materials and rolled metal products. The approved funds for these materials are not being realized. No reserve of mazut has been created. This has an effect on the heating of Kara-Kul.

The Tash-Kumyr GES must be constructed in a record short time. At the end of 1984 it is planned to completely finish the construction-operating spillway. The Naryn is to be spanned in the same time. At the end of 1985, the first power from the hydroelectric power plant will enter the unified energy system of Central Asia.

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GENERAL

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POLYMETAL-CATALYST MAKERS SICK MORE OFTEN THAN OTHER REFINERY WORKERS

Moscow ZDRAVOOKHRANENIYE ROSSIYSKOY FEDERATSII in Russian No 11, 1982 pp 24-27

[Article by Candidate of Medical Sciences B. Sh. Valishin (Ufa Scientific-Research Institute of Hygiene and Occupational Illness of RSFSR Ministry of Health): "Morbidity with Temporary Disablement of Oil Refinery Workers"]

[Text] In order to assess the state of health of various categories of workers, a study has been made of of their morbidity with temporary disablement, based upon the medical certificates issued in these cases. The share of such sick persons usually is 60-70 percent of the total number and can serve as a criterion of the effect of working conditions on morbidity and the effectiveness of the use of hygienic, therapeutic and preventive measures for protecting their health.

It was proposed to find out what nonspecific effect was exerted on those who work at units that produce polymetal catalysts for the oil-refining industry by the working conditions: the presence in the breathing area of a set of harmful substances (particularly catalyst dust) that exceeds moderately the permissible standards, production noise and, in some cases, the unfavorable microclimate of the work area.

In order to clarify the effect of catalyst dust on workers, a comparative evaluation was made of the morbidity of workers of vocational groups that have contact with catalysts of various contents--aluminum-cobalt-molybdenum, aluminum silicate and aluminum-platinum. Moreover, the indicators of the disablement of catalyst-production workers and of personnel employed at other facilities of the same oil refineries were analyzed. The latter facilities (1,470 people in all were surveyed) served as a control, since they were similar in a number of factors to the production facilities being studied: in degree of automation and mechanization of industrial processes, in the time that personnel spent directly on worker operations, microclimate indicators, and degree of pollution of the surrounding air (by hydrocarbons and other harmful substances). The difference between the catalyst production facilities and other oil-refinery facilities consists in the constant presence in the air of various types of production dust that are characteristic of the first but are absent at the facilities that were taken for comparison.

With a view to increasing the objectivity of the evaluation, the indicators of disablement were figured per 100 year-round workers for an average of 3 years (1976-1978).

In order to execute the main task of this research--determination of the degree of effect of working conditions on the level of nonoccupational pathology, groups of workers were chosen from among specialties that were characteristic for polymetal catalyst production (operators and controllers, who make up the majority of the workers at the production facilities studied--68.5-88.7 percent). The bulk of the surveyed workers were 20-50 years old, the majority of them having substantial length of service (more than 5 years) in catalyst production (64.6-73.9 of the men and 58.2-84.4 percent of the women). The group of people with more than 10 years of service was extremely substantial.

The data obtained made it possible to establish that morbidity with temporary disablement was somewhat higher for catalyst-production workers than for those who worked at other facilities (table 1). It was noted that the level of disablement for catalyst-production workers was greater with regard to anginas, lung illnesses and infections of the skin and subcutaneous fatty tissues. The data on impetiginous illnesses attracted special attention. Among the other nosological types, this group of illnesses was in third place in 1976-1978 in frequency of cases (after severe respiratory infections and anginas). Impetiginous illnesses of the skin had a comparatively high level in number of days of disablement.

Table 1

Morbidity of Workers at Catalyst-Production and Other Facilities in 1976-1978 (per 100 Workers)

Nosological type	Morbidity			
	in cases		in days	
	Catalyst production	Other facilities	Catalyst production	Other facilities
Influenza	6.5	7.7	41.2	50.0
Severe respiratory infections	26.1	26.1	144.7	150.1
Anginas	10.4	6.3	88.7	39.4
Bronchitises, pneumonias	7.1	3.2	86.6	61.3
Illnesses of the peripheral nervous system	5.3	4.9	75.6	54.6
Infections of the skin and subcutaneous fatty tissues	7.9	3.1	78.6	28.1
Illnesses of the osteomuscular system	5.1	4.7	51.4	54.6
Gastritises, colitises	3.1	2.5	40.0	42.3
Illnesses of the liver and hepatic ducts	1.8	2.2	34.3	20.4
Illnesses of the heart and blood vessels	2.7	2.5	51.0	35.8
Hypertonic illness	2.7	2.6	33.3	24.9
Illnesses of the genito-urinary system	4.7	3.1	62.4	47.7
Others	5.6	8.6	91.4	126.4
Totals	94.4	83.5	955.4	923.7

In establishing the significance of working conditions in the formulation of morbidity, the data about temporary disablement among workers who have various degrees of work service is of great importance (table 2). As is apparent, during the first 3 years the level of illness exceeds somewhat that of the next length-of-service group (3-5 years). After a certain reduction in the disablement indicators for workers with 3-5 years of service, an increase in the indicators is observed.

increase in morbidity caused by influenza, severe respiratory infections, anginas, bronchitises, pneumonias, impetiginous illnesses of the skin and subcutaneous fatty tissues, and illnesses of the peripheral nervous system was noted in workers with the greater service time. Apparently, the increase in disablement of precisely this category was associated with the effect of unfavorable working conditions over a lengthy period.

Morbidity of Catalyst-Production Workers in 1976-1978
as a Function of Length of Work Service (per 100 workers)

Nosological types	Morbidity							
	in cases				in days			
	Length of work service, years							
	Less than 3	3-5	6-9	10 or more	Less than 3	3-5	6-9	10 or more
Influenza..................	6.7	6.0	7.3	8.2	38.7	28.3	38.3	45.6
Severe respiratory infections..............	21.8	21.7	26.4	30.4	124.4	98.9	155.5	184.1
Anginas....................	14.6	10.9	12.9	12.4	99.9	64.8	94.0	104.9
Bronchitises, pneumonias...	3.9	4.7	6.6	10.4	60.9	65.3	74.0	130.5
Illnesses of the peripheral nervous system...........	1.8	4.7	5.5	9.4	17.3	27.8	53.2	106.2
Infections of the skin and subcutaneous fatty tissues..................	5.8	6.3	7.9	8.6	43.8	54.0	68.6	86.4
Illnesses of the osteomuscular system............	2.5	4.1	3.5	6.8	22.8	55.2	56.2	76.0
Gastritises, colitises.....	2.5	2.5	2.0	3.0	29.6	20.1	39.4	47.3
Illnesses of the liver and hepatic ducts...........	1.0	0.3	1.8	2.8	15.1	12.6	31.5	51.2
Illnesses of the heart and blood vessels...........	1.4	1.4	1.3	3.9	26.7	19.1	28.4	74.2
Hypertonic illness.........	0.7	0.7	0.7	4.9	5.6	6.6	12.9	55.0
Illnesses of the genitourinary system..........	6.3	2.9	4.1	6.9	79.1	46.6	52.4	83.5
Others.....................	3.8	2.6	4.5	8.7	47.3	41.4	66.3	127.4
Totals.....................	77.7	73.8	87.7	122.4	696.4	638.7	835.6	1269.5

The research results indicated that for the older age groups the unfavorable effect of production conditions is more pronounced, which increases the risk of getting occupational illnesses or temporary disablement. At the same time, it has been noted repeatedly in the literature that higher indicators of temporary disablement are observed not in persons who are approaching the pension age but among the younger groups. The workers of two age groups--30-39 and 40-49--are included here in works of recent years. The branch of industry and, consequently, the nature of the dosages of the action of harmful substances in this case had basically no significance. In order to clarify this question relative to catalyst-installation workers, disablement indicators were used. The workers in this case had first been broken down into three major groups: the under-30 age group (21.4 percent of the total number of workers), from 30 to 39 years of age (29.9 percent) and the 40 and over age group (48.7 percent).

As a whole the differences in morbidity of workers of these age groups was, comparatively, not great. The number of lost days for people of the 30-39 age group was definitely higher than for workers of younger age. The summary data on the number of cases and the number of days of disablement for workers in the 30-39 age group turned out to be the highest. As for the various nosological types, severe respiratory infections, influenza, anginas, gastritises and colitises and illnesses of the genito-urinary system were noted more frequently in the below-30 age group. Workers 40 and older more often were disabled as a result of illnesses of the heart and blood vessels, illnesses of the liver and the hepatic ducts, hypertonia and the so-called "other illnesses." With age, the number of days of disablement increased mainly through an increase in the average duration per case of illness--from 9.0 (for persons less than 30 years old) to 10.7 (among workers age 40 or more).

On the whole, it can be noted that the existing differences in illness indicators for workers of various ages were much less pronounced in comparison with similar data for those persons of the same category but with different length of service in the catalyst-production facility environment. This serves as additional confirmation of the importance of unfavorable factors of the production environment in the shaping of nonoccupational pathology.

In a comparison of the morbidity indicators of men and women, it was established that women have a higher level of nonoccupational pathology, which is explained by the high sensitivity of the female organism to unfavorable factors of the external environment. Apparently, more objective information relative to the existence of differences in levels of disablement of women and men can be obtained only where their working conditions are practically identical.

The comparison of morbidity indicators between men and women engaged in the production of polymetal catalysts did not reveal considerable differences in the summary data. There were no appreciable differences either in the frequency of morbidity for most of the nosological types. In this connection, it must be noted that, at the production facilities studied, men and women did not have identical working conditions. During the work process, the shifts of male operators performed a number of operations not permitted for women: current repair and overhaul of equipment, disassembly of various items of equipment, and others. All these operations are associated with an increase in the presence of gas and dust in the area and with the high specific weight of the manual labor.

Thus, female workers who have the same trade as men come in somewhat less contact with harmful vapors, dust and gases and much more rarely are engaged in heavy physical labor. It is these circumstances also that predetermine a somewhat lesser morbidity among women, and, consequently, characteristic differences for the various nosological types. Thus, morbidity as a result of injury, impetiginous illnesses of the skin and subcutaneous fatty tissues, and illnesses of the peripheral nervous system and the osteomuscular apparatus are higher for men, both in number of cases and, especially in number of days of morbodity. These are the nosological types that shaped in the greatest degree the forming of increased disablement of men in comparison with women. Nevertheless, contact with harmful substances was not without consequences for women. Despite the somewhat better working conditions, women fell sick just as frequently as men with severe respiratory infections, anginas, bronchitises, pneumonias and illnesses of the heart and blood vessels. They also had a higher level of illnesses of the genito-urinary organs. The average duration per case for men was 10.2 days, for women 10.5 days.

Thus, the results of the study of morbidity with temporary disablement of catalyst-production workers enables its dependence on working conditions to be established fairly accurately. The data obtained in a comparison of indicators of disablement of persons who come in contact with dust and of those who work in dust-free premises, the data on the morbidity of workers who are engaged in catalyst production, and the indicators of nonoccupational pathology of persons of the various groups by length of service attest to this.

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